

TECHNICAL REPORT TITLE PAGE

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8. ABSTRACT <p>This project was undertaken in coordination with the Environmental Assessment process on the Mt. Vernon Road Improvements project in Cedar Rapids, Iowa. The goal of the research was to determine the cost effectiveness of combined photo-imaging and computer animation as a presentation tool describing public road improvements. The Public Hearing, in combination with the involvement of a Citizen's Resource Group, afforded an opportunity to have an evaluation of the processes by interested citizens who were not familiar with engineering drawings or the construction industry.</p> <p>After the initial viewing of a draft version of the video, the Resource Group made recommendations to the staff developing the video. Discussion of these recommendations led to the development of an animated composite section that showed a combination of situations typically encountered throughout the project corridor, as well as critical considerations. The composite section did not show specific locations and therefore, individuals were not distracted by looking for the details pertaining to their properties. Concentration on the concepts involved rather than specifics provided the opportunity for a more thorough understanding by the citizens. The development of the composite concept was the primary discovery of the research.</p> <p>The composite was followed in the video by photo-imaging and computer animation of specific locations within the project area. Having the understanding of general concepts in advance from the composite explanation, the citizens focused upon the suggested appearance and impacts of the project rather than details of the animation or the applicable concept.</p> <p>While the costs for the project exceeded double the \$30,000 budget for film preparation provided by the Iowa Highway Research Board and the City of Cedar Rapids for the video, the personnel involved with the computer animation activities are confident that future projects could be done within or near the proposed budget for labor. The cost per mile to show critical features is projected as approximately one-quarter of the \$100,000 cost to animate an entire project. To ensure cost effectiveness, the computer hardware, use of computer techniques, and knowledge of the capabilities of computer animation is required before work can be started on any project and the establishment of a project budget.</p> <p>The formatting of a final script and full development of the project concepts must be accomplished prior to beginning work on any animation or photo-imaging because the computer processing is still somewhat cumbersome and time consuming to make repeated revisions to prepared segments of animation. In other words, the animation should be used as a presentation tool rather than a design tool at this time.</p> <p>Considering this process is in the research and development stage, and that computer hardware continues to improve at a rate that doubles capacity annually, preparation of the evaluated media for small projects appears to be economically feasible within a few years. In conclusion, the photo-imaging process is currently cost effective and very effective in displaying potential future appearances from a single perspective. The computer animation is also very effective in showing appearances and therefore is a valuable tool for showing complicated areas and long segments. To be effective, mixing or alternating of presentation methods should be done with consideration for the orientation of the viewer.</p> <p>The continued development of these methods is highly recommended and the project video, <u>Mt. Vernon Road: "A Solution Through Partnership"</u>, should be included in the "tool box" for Urban Corridor Management.</p>	
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